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REMARKS

Applicants wish to thank the Examiner for considering the present application. In the Office Action dated March 10, 2004, Claims 1-24 are pending in the application. Applicants respectfully request the Examiner for reconsideration.

Claims 1-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Perahia et al* (6,188,896) in view of *Han* (4,343,005) in further view of *Ohm* (4,364,052). Applicants respectfully traverse.

Claim 1 is directed to a method of preventing interference in a communications system that includes generating a fixed reuse pattern in a service area from a high altitude communication device with the pattern having at least a first resource cell and a second resource cell. The method further includes the step of selectively suppressing a side lobe of a beam having a first resource to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and a side lobe suppressed portion aligns with the first resource cell.

The Applicants agree with the Examiner's assessment that the *Perahia* reference does not teach selectively suppressing a side lobe of a beam. Applicants, however, disagree with the Examiner's assessment that *Han* teaches "suppressing a side lobe of a beam having a first resource to form a suppressed portion and a non-suppressed portion so that said non-suppressed portion aligns with said second resource cell." Applicants have reviewed the entire paragraph beginning on line 21 of Col. 5. When reviewed with respect to Fig. 2 to which it refers, overlapping portions 44 and 46 and 48 and 50 are illustrated. This passage is believed to generally refer to suppression of side lobe pattern. Beginning on line 23 *Han* states, "The side lobe patterns, however, can be so successfully suppressed by careful antenna design as to permit for example reuse in the respective hemispheres of a given frequency channel." The passage further states that, "4 GHz signals may be used in both patterns 44 and 46 which overlap." As pointed out in the previously Office Action, while the two signals are adjacent to each

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other, they use a different resource, namely, a 4 GHz signal with different polarizations. As stated on page 9 of the present application, "By relaxing requirements on the side lobe, better main lobe performance may be achieved with an antenna design that requires side lobe suppression for all beams." It appears that the *Han* reference does not teach selectively suppressing a side lobe of a beam so a non-side lobe suppressed portion and a side lobe suppressed portion has the particular alignment set forth therein. That is, no non-side lobe suppressed portion is taught or suggested in the *Han* reference.

It should also be noted that Claim 1 has been amended to recite that the antenna is selectively reshaped at interference locations and maintains a shape of the antenna in non-interference locations. The *Ohm* reference teaches "suppressing selected side lobes." However, no teaching or suggestion is provided in the *Ohm* reference for reshaping the antenna. The configuration described in the *Ohm* reference uses a main focusing reflector, a main feed arrangement, and at least two auxiliary feed arrangements disposed on opposite sides of and a predetermined equal distance from the main feed arrangement in the plane of the side lobes to be suppressed. Thus, no shaping of the antenna is performed. Although this arrangement allows cancellation or selective suppression of far off axis side lobes, the present invention is more. That is, the present invention selectively suppresses a side lobe of a beam having a first resource so a non-side lobe suppressed portion aligns with the second resource cell and a side lobe suppressed portion aligns with the first resource cell. The Examiner is specifically directed to Fig. 5, which illustrates this. As can be seen, the annular ring 36D illustrates the suppressed portion and the non-suppressed portion.

Also, Applicants respectfully submit that no teaching or suggestion is provided in the *Ohm* reference for manipulating the antenna shape. Therefore, Applicants respectfully request the Examiner to reconsider the rejection of Claim 1. Likewise, independent Claim 9 is also believed to be allowable for the same reasons set forth above. Claim 9 has been amended to recite that the antenna is "selectively shaped so that said side lobes of said first plurality of beams are

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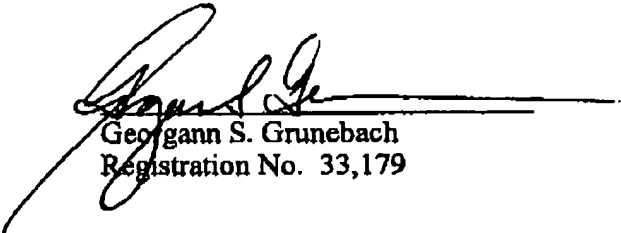
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selectively suppressed in said first plurality of cells having said first resource and said side lobes are unsuppressed in the second plurality of cells."

Claim 15 has also been amended to recite the step of "maintaining the antenna to not suppress interference at non-interference locations." Claim 15 also recites the step of reshaping the antenna. As mentioned above with respect to Claim 1, these steps are not taught or suggested in either of the three references. Furthermore, dependent Claims 2-8, 10-14, and 16-20 are dependent claims and are also believed to be allowable for the same reasons set forth above.

In light of the above amendments and remarks, Applicants submit that all rejections are now overcome. Applicants have added no new material to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,



Georgann S. Grunebach
Registration No. 33,179

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The DIRECTV Group, Inc.
P. O. Box 956
El Segundo, CA 90245-0956
Telephone: (310) 964-4615